

The present invention is directed to a method of releasing a fragrance by providing a fragrance precursor in a stable form and in a stable medium, and treating the formulation to disintegrate and rapidly release the fragrance by the rapid hydrolysis of the compound of Formula I. The art of record does not disclose or suggest a method for the rapid release of the fragrance of the claimed compound. The cited patents are specifically directed to the slow release of the fragrance compounds and tailor the structure of the starting compounds to provide the required slow release. The cited patents also do not specifically disclose the claimed method for the spontaneous release of the fragrance precursor having the Formula I as recited in the claims in an acidic and oxidative medium having a water content of less than or equal to 10 wt% as in claim 1, or an alkaline medium as in claim 5.

Anderson '763 discloses a starting compound that is different from the claimed method for the spontaneous release of the fragrance precursor. The starting compounds of Anderson '763 having the formula $[Y]_m-[Z]_n$ decompose by a first step into a hydroxy ester having the formula Y-H (column 4, equation (II)). The hydroxy ester decomposes into one or more organoleptic lactones and one or more alcohols, anines, aldehydes and/or ketones (column 4, equation (III)). Anderson '763 is specifically directed to a two stage decomposition, thus resulting in a slow release of the organoleptic lactones.

The compounds disclosed in Anderson '763 defined by the formula $[Y]_m-[Z]_n$ do not overlap with the fragrance precursor of Formula I or the claimed method for the release of the fragrance. Furthermore, group Z in the formula of Anderson '763 is a protecting group which is removed in a first step to provide a hydroxy ester. The hydroxy ester then decomposes into one or more organoleptic lactones. The precursor compound of Anderson '763 cleaves two hydroxyl

groups to provide the slow release of the compound. Anderson specifically describes the process as being a slow release of the active agents by the two stage decomposition mechanism.

Anderson '857 also does not disclose the claimed compounds as a precursor in a method for the spontaneous release of a fragrance. The groups defined by X and R₂ of Formula I of Anderson '857 are not a branched or unbranched C₁ to C₄ alkyl or branch or unbranched C₂ to C₄ alkylene as in the claimed invention. X as defined in Anderson '857 has a divalent hydrocarbon residue that can contain one or more heteroatoms. As disclosed in column 4 of Anderson '857, the precursors provide an active compound where R₁ = R₃. Where R₁ and R₃ of the compound of Formula I of Anderson '857 are the same, the precursor is clearly not the claimed invention. Anderson '857 also discloses where the R₁ and R₃ and R₄ are different, X yields a lactone that does not correspond to the compounds of claim 1 for a method for the spontaneous release of a fragrance. Anderson '857 further discloses that where R₁ and R₃ and R₄ are different, three different active compounds are produced. None of the starting compounds correspond to the precursor of claim 1 for a method for the spontaneous release of a fragrance. Specifically, the compounds of Formulas II to V of Anderson '857 do not encompass the claimed method using a precursor corresponding to R₂ being a C₁ to C₄ alkyl, or a C₂ to C₄ alkylene group.

Anderson '857 only discloses that where X can be a bivalent hydrocarbon residue having 1 to 20 carbon atoms, R₂ must be a carboxylic or heterocyclic moiety or a carboxyl group. The Action fails to identify a method for the spontaneous release of a fragrance using any compound encompassed by Anderson '857.

Paget et al. is cited for disclosing a process of perfuming fabrics with a detergent composition. Paget et al. does not disclose or suggest the claimed method of releasing a fragrance using the precursor of the present invention. Paget et al. discloses a compound of

Formula I where Y is a C₇ to C₂₄ alkyl radical, and R is a fragrant alcohol of the formula ROH or Y being a C₇ to C₂₄ alkyl radical and R being a cyclic group. Paget et al. specifically defines the compounds as providing slow release to prolong the odor effect on the fabrics. The cyclic compounds defined by R in the formula of Paget et al. do not correspond to the claimed compounds. As noted above, the alkyl radical defined by Y in the Formula I of Paget et al. is outside the range of the precursor of the claimed method of spontaneously releasing a fragrance.

None of the cited patents either standing alone or in combination suggest to one skilled in the art the claimed method of releasing a fragrance using the precursors claimed. Anderson '763, Anderson '857 and Paget et al. specifically define the compounds that have a formula outside the claimed range. The cited patents provide no suggestion to one skilled in the art to modify the formulas to correspond to the claimed R₂ being a C₁ to C₄ alkyl or a C₂ to C₄ alkylene group and to provide a method for spontaneously releasing a fragrance. The Action provides no basis for the position that it would have been obvious to modify the compounds of Anderson '763, Anderson '857 or Paget et al. As disclosed in the present specification, the precursor compounds as presently claimed for a method for the spontaneous release of a fragrance are stable for extended periods of time and are able to rapidly release the fragrance compounds. In contrast, the compounds of the cited patents are specifically defined for the slow release. Thus, it would not have been obvious to one skilled in the art to modify the compounds of Anderson '763, Anderson '857 and Paget et al. in a manner that would provide a rapid release of a fragrance in a manner contrary to the result of the cited patents.

The cited patents further fail to disclose providing the compound as defined by Formula I of claim 1 in a medium that is acidic and oxidative and has a water content of less than 10 wt%. The Action does not identify where the cited patents disclose an acidic and oxidative medium

having a water content of less than or equal to 10 wt%. The cited patents further fail to disclose the compounds defined by R₂ as in claims 2 and 3, in combination with the precursor compound as defined in claim 1.

Independent claim 4 is also allowable over the art of record for defining a method for the spontaneous release of a fragrance by adding the claimed compound in a composition containing a medium where the claimed compound is stable, and thereafter treating the composition to rapidly release the active compounds. For the reasons discussed above, the cited patents do not disclose or suggest the claimed method of releasing a fragrance using the precursor compound of the present invention and clearly fail to disclose or suggest a method using a compound that is able to rapidly release the active components.

The Action does not identify where the cited patents disclose the medium being acidic and oxidative or being alkaline and having a water content of less than or equal to 10 wt% as in claim 5, in combination with the feature of claim 4.

The cited patents also do not disclose the precursor being in an acidic and oxidative medium and activating the composition by raising the pH to 8.5 or more, or where the medium is alkaline raising the water content to greater than 10 wt%. Paget et al. specifically discloses a method of depositing the precursors on the fabric such that the precursors of Paget et al. are not rapidly released in the wash water as suggested in the Action. Paget et al. provides the slow release of the fragrance compounds by depositing the precursor on the fabric. Thus, Paget et al. does not disclose an alkaline medium and rapidly activating the compounds by increasing the water content as in claim 6. The cited patents further fail to disclose the acidic and oxidative medium and the alkaline medium of claim 7, in combination with the features of claim 5.

Schmenger et al., Clausen et al. and Tokosh et al. do not provide the deficiencies of Anderson '763, Anderson '857 and Paget et al. Schmenger et al. is cited for disclosing coloring agents for keratin fibers. Clausen et al. is cited for disclosing ammonia water and a thickener in hair fixing compositions. Tokosh et al. is cited for disclosing a soap comprising sodium tallowate and sodium cocoate.

Claims 15-27 are allowable as depending from an allowable base claim and for reciting additional features of the invention. The combination of cited patents does not suggest the acidic and oxidative medium being a developer as in claim 15, the medium being alkaline and the composition being a deodorant or antiperspirant or soap as in claim 16, in combination with the claimed method of releasing a fragrance using the precursor of claim 4. The cited patents further fail to disclose dispersing or dissolving the compound in the medium as in claim 17, the compound being a constituent of a perfume oil that is dispersed or dissolved in the medium as in claim 18, the fragrance precursor being absorbed on a carrier, microencapsulated, spray dried, inclusion complex, extruded carrier or coated on a carrier as in claim 17, either alone or in combination with the features of claim 4.

The cited patents further fail to disclose the formulation comprising less than 1 wt% of the compound as in claim 20, the hair coloring composition of claims 21-25, either alone or in combination with the features of claim 4.

The claimed method of releasing a fragrance using a precursor having the compound of Formula I as in claim 4 provides a rapid release of the fragrance component upon activation. The compound of Formula I is stable for extended periods of time while rapidly releasing the fragrance component when activated. As recited in claim 26, 91 to 100% of the fragrance precursor is hydrolyzed to aldehydes after 5 minutes. Thus, the method of releasing a fragrance

using a compound of Formula I as claimed is clearly different from the methods or compounds of the cited patents which expressly require a slow decomposition and slow release of the active compounds. It would not have been obvious to one of ordinary skill in the art to modify the compounds disclosed in Anderson '763, Anderson '857 and Paget et al. to provide a rapid release and particularly a release of 91 to 100% after 5 minutes as in claim 26. One of ordinary skill in the art would not modify the compounds of the cited patents in a manner that would destroy the intended purpose, namely, a slow sustained release of the fragrance. Accordingly, claim 26 would not have been obvious over the combination of the cited patents.

In view of the above comments, Applicants submit that the claims are not obvious over the art of record. Accordingly, reconsideration and allowance are requested.

Respectfully submitted,


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